

REMARKS

Claims 1, 4-18, and 33 are presented in this application. Claims 1 and 12 are independent. Claims 2, 3, and 19 - 32 have been canceled without prejudice. Claims 1, 4-9, 11, 12, 14-16, and 18 have been amended. Claims 10, 13, and 17 are withdrawn from consideration. Support for the claim amendments is found, for example, at least in Figures 1- 6 and the accompanying disclosure, and therefore, no new matter has been added.

Specification Objections

The Examiner objects to the specification for minor informalities therein and makes specific suggestions for amending the specification to overcome the rejections. In response, while not conceding the propriety of the objections, the specification has been amended in the attached clean and marked-up copies of a substitute specification to incorporate the Examiner's suggestions for overcoming the specification objections and to amend the specification to improve its form. Therefore, Applicants respectfully request that the specification objection be withdrawn.

Formal Claim Objections

The Office Action objects to Claims 8, 9, and 31 for minor informalities therein. In response, while not conceding the propriety of the objections, Claim 31 has been canceled without prejudice and Claims 8 and 9 have been amended to address the points raised in the Office Action. Accordingly, Applicants respectfully request that the objections be withdrawn.

Double Patenting Rejection

Claims 1 and 2 have been provisionally rejected for non-statutory obviousness-type double patenting over Claims 1 and 4 of co-pending Application No. 10/528,238. In addition, Claims 11, 12, 19, and 26 have been provisionally rejected for obviousness-type double patenting over Claims 1 and 4 of co-pending Application No. 10/528,238 in view of U.S. Patent No. 7, 274, 884.

In response, while not conceding the propriety of the provisional double patenting rejections, Claims 2, 3, and 19 - 32 have been canceled without prejudice and independent Claims 1 and 12 have been amended. Applicants submit that as amended, these claims are allowable over these citations for the following reasons.

Independent Claim 1 relates to an image forming apparatus operable in a first image formation mode for forming an image on an image bearing member by using developer under a first predetermined image forming condition and a second image formation mode for forming an image on an image bearing member by using developer under a second image forming condition which is different from the first predetermined image forming condition. The apparatus is set so that the amount of consumption of developer for forming an image in the second image formation mode is smaller than the amount of developer used for forming an identical image in the first image formation mode.

Claim 1 has been amended to recite that the apparatus comprises a storing device that stores setting information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member.

Claim 1 has also been amended to recite a controller configured to set the image forming apparatus in the first image formation mode or the second image formation mode.

Claim 1 has been further amended to recite an image processing controller configured to discriminate the size of a concentrated pixel area in image information when the second image formation mode is set and to perform first and second image density lowering processes on image information presenting pixel areas of different sizes, depending on the discriminated size of the pixel area.

In addition, Claim 1 has been amended to recite that in a state in which the controller is configured to set the image forming apparatus in the second image formation mode, an image density lowering process performed on the image information by the image processing controller is changed depending on the discrimination result of the image processing controller in such a manner that the first image density lowering process is performed so that image information representing pixels in pixel areas of a first size of the image to be formed has a first image density, and the second image density lowering process is performed so that image information representing pixels in pixel areas of a second size of the image to be formed has a second image density lower than the first image density.

Further, Claim 1 has been amended to recite that the controller sets an image forming condition for a first size of the image and a second size of the image as the second image forming condition by using the setting information, stored in the storing device, corresponding to the amount of usage of the image bearing member.

In contrast, Claims 1 and 4 of co-pending Application No. 10/528,238 and U.S. Patent No. 7,274,884 are not understood to disclose or suggest a storing device that stores setting information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member, or that a controller sets an image forming condition for a first size of the image and a second size of the image as the second image forming condition by using the setting information, stored in the storing device, corresponding to the amount of usage of the image bearing member, as recited by amended Claim 1 of the present application.

Since amended Claim 1 recites at least one feature not understood to be disclosed or suggested by Claims 1 and 4 of co-pending Application No. 10/528,238 or U.S. Patent No. 7,274,884, Applicants submit that the Office has not yet satisfied its burden of proof to establish a prima facie case of provisional obviousness-type double patenting against amended Claim 1 over these citations. Therefore, Applicants respectfully request that the rejection of amended Claim 1 be withdrawn. And since corresponding cartridge Claim 12 has been amended in a similar manner, it is allowable for similar reasons. Therefore, Applicants respectfully request that the rejection of amended Claim 12 be withdrawn.

Obviousness Rejection

Claims 1-9, 11, 12, 14-16, 18, 19, 21-23, 25, 26, 28, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto (U.S. Patent Publication No. 2002/10071689), in view of Yamauchi (U.S. Patent No. 7,274,884).

In response, while not conceding the propriety of the rejection, Claims 2, 3, and 19 - 32 have been canceled without prejudice and independent Claims 1 and 12 have been amended. Applicants submit that as amended, these claims are allowable over these citations for the following reasons.

As noted above, independent Claim 1 has been amended to recite

- a storing device that stores setting information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member;
- a controller configured to set the image forming apparatus in the first image formation mode or the second image formation mode;
- an image processing controller configured to discriminate the size of a concentrated pixel area in image information when the second image formation mode is set and to perform first and second image density lowering processes on image information presenting pixel areas of different sizes, depending on the discriminated size of the pixel area;
- that in a state in which the controller is configured to set the image forming apparatus in the second image formation mode, an image density lowering process performed on the image information by the image processing controller is changed depending on the discrimination result of the image processing controller in such a manner that the first image density lowering process is performed so that image information representing pixels in pixel areas of a first size of the image to be formed has a first image density, and the second image density lowering process is performed so that image information representing pixels in pixel areas of a second size of the image to be formed has a second image density lower than the first image density; and
- that the controller sets an image forming condition for a first size of the image and a second size of the image as the second image forming condition by using the setting information, stored in the storing device, corresponding to the amount of usage of the image bearing member.

By this arrangement, an apparatus is provided that discriminates an image size, performs image density control depending on the discriminated size, and sets an image forming condition for a first size of an image and a second size of an image by using stored setting information corresponding to the amount of usage of the image bearing member.

In contrast, the citations to Miyamoto and Yamauchi are not understood to disclose or suggest an apparatus that discriminates an image size, performs image density control depending on the discriminated size, and sets an image forming condition for a first size of an image and a second size of an image by using stored setting information corresponding to the amount of usage of the image bearing member.

Therefore, these citations are not understood to disclose or suggest a storing device that stores setting information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member, a controller configured to set the image forming apparatus in the first image formation mode or the second image formation mode, an image processing controller configured to discriminate the size of a concentrated pixel area in image information when the second image formation mode is set and to perform first and second image density lowering processes on image information presenting pixel areas of different sizes, depending on the discriminated size of the pixel area, wherein in a state in which the controller is configured to set the image forming apparatus in the second image formation mode, an image density lowering process performed on the image information by the image processing controller is changed depending on the discrimination result of the image processing controller in such a manner that the first image density lowering process is performed so that

image information representing pixels in pixel areas of a first size of the image to be formed has a first image density, and the second image density lowering process is performed so that image information representing pixels in pixel areas of a second size of the image to be formed has a second image density lower than the first image density, and wherein the controller sets an image forming condition for a first size of the image and a second size of the image as the second image forming condition by using the setting information, stored in the storing device, corresponding to the amount of usage of the image bearing member, as recited by amended Claim 1. Rather, the citation to Yamauchi is understood to show the setting of an image forming condition on the basis of a plurality of pieces of information, depending on the amount of usage of the image bearing member, stored in the memory, while the citation to Miyamoto is understood to disclose an image forming apparatus in which a normal image forming mode and a plurality of resource saving modes are selectable and as the plurality of resource saving modes, a plurality of paper saving modes for reducing an amount of paper consumption and a plurality of toner saving modes for reducing an amount of toner consumption are settable.

Since amended Claim 1 recites at least one feature not understood to be disclosed or suggested by the citations to Miyamoto and Yamauchi, Applicants submit that the Office has not yet satisfied its burden of proof to establish a prima facie case of obviousness against amended Claim 1 over these citations. Therefore, Applicants respectfully request that the rejection of amended Claim 1 be withdrawn. And since corresponding cartridge Claim 12 has been amended in a similar manner, it is allowable for similar reasons. Therefore, Applicants respectfully request that the rejection of amended Claim 12 be withdrawn.

The dependent claims are also submitted to be patentable, due to their dependency from the independent base claims, as well as due to additional features that are recited. Individual consideration of the dependent claims is respectfully solicited.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration, withdrawal of the outstanding rejection, and passage to issue of the present application.

Applicants' undersigned attorney may be reached in Washington D.C. by telephone at (202) 530-1010. All correspondence should continue to be directed to the address given below.

Respectfully submitted,

/Gary M. Jacobs/

Gary M. Jacobs
Registration No. 28,861
Attorney for Applicants

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
GMJ:ayr

FCHS_WS 3864377v1